

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

MAY 23 1988

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

In the Matter of	)	Docket Nos. 50-259
Tennessee Valley Authority	)	50-260
	)	50-296

BROWNS FERRY NUCLEAR PLANT (BFN) UNITS 1, 2, AND 3 - NRC INSPECTION REPORT NOS. 50-259/87-29, 50-260/87-29, AND 50-296/87-29, - RESPONSE TO NOTICE OF VIOLATION

This letter is to provide TVA's response to the letter from S. D. Richardson to S. A. White dated April 19, 1988, which transmitted the subject inspection report.

The report cited TVA with two violations in the area of special nuclear material control and accountability, one of which resulted from the shipment of an unaccounted Intermediate Range Monitor (IRM) to the Peach Bottom Facility.

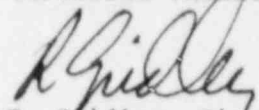
Enclosure 1 provides background information and TVA's response to NRC concerns raised in the subject report. A list of commitments is provided in enclosure 2.

On May 19, 1988, Art Johnson of your staff agreed to an extension of the due dates for this response to May 26, 1988.

If you have any questions, please telephone James E. Wallace at (205) 729-2053.

Very truly yours,

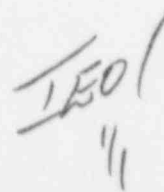
TENNESSEE VALLEY AUTHORITY



R. Gridley, Director  
Nuclear Licensing and  
Regulatory Affairs

Enclosures  
cc: See page 2

8806010218 880523  
PDR ADOCK 05000259  
Q DCD



U.S. Nuclear Regulatory Commission

MAY 23 1988

cc (Enclosures):

Mr. K. P. Barr, Acting Assistant Director  
for Inspection Programs  
TVA Projects Division  
U.S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Mr. G. G. Zech, Assistant Director  
for Projects  
TVA Projects Division  
U.S. Nuclear Regulatory Commission  
One White Flint, North  
11555 Rockville Pike  
Rockville, Maryland 20852

Browns Ferry Resident Inspector  
Browns Ferry Nuclear Plant  
Route 12, Box 637  
Athens, Alabama 35611

ENCLOSURE 1

RESPONSE  
NRC INSPECTION REPORT  
NOS. 50-259/87-29, 50-260/87-29, AND 50-296/87-29  
LETTER FROM S. D. RICHARDSON TO S. A. WHITE  
DATED APRIL 19, 1988

Violation 1

10 CFR 70.51(c) requires that each licensee authorized to possess at any one time special nuclear material (SNM) in a quantity exceeding one effective kilogram of SNM shall establish, maintain, and follow written material control and accounting procedures which are sufficient to enable the licensee to account for the SNM in his possession under license.

Section 7.8.1 of Technical Instruction 14, Special Nuclear Material Control, which was prepared by the licensee to satisfy the requirements of 10 CFR 70.51(c) states that each physical inventory shall be an inventory of fuel assemblies and other SNM by location and serial number including piece count.

Example A

Contrary to the above, the licensee did not maintain adequate written material control and accounting procedures to enable the licensee to account for SNM in that at the time of the inspection, Technical Instruction 14 did not provide for:

1. written delegations of responsibility that were approved by line management,
2. characterization of non-fuel SNM inventory anomalies as an event requiring a Condition Adverse to Quality Report,
3. separation of accountability functions that establish necessary checks and balances,
4. descriptions of the various container and/or material configurations that would be encountered by inventory teams,
5. descriptions of the physical appearance of SNM items, the unique characteristics to be used during visual inspection and special handling requirements, and
6. level of training required for individuals prior to their conducting a physical inventory.

TVA's Response

1. Admission or Denial of the Alleged Violation

TVA admits the violation.

2. Reasons For the Violation If Admitted

TI-14 was inadequate due to insufficient management attention to the procedural controls in place for SNM accounting and handling. If TI-14 had addressed the above noted control and accounting deficiencies, the shipment could have been halted or an investigation could have been initiated to correct the SNM accounting anomalies.

3. Corrective Steps Which Have Been Taken and Results Achieved

TVA has implemented many programmatic improvements since the incident and they are as follows:

- a. TVA performed a comprehensive SNM records search to provide a BFN SNM baseline, and these results were reported to NRC on September 30, 1987,
- b. Revised corporate procedure PMP 1801.03 to provide additional guidance on inventory methods, training requirements and on the frequency and extent of SNM system reviews by the corporate program manager. The frequency of these system reviews will be at least twice per year beginning in August 1987,
- c. Revised Site Director Standard Practice 26.1 to provide specific details for site management overview of the site's SNM program,
- d. Revised the site maintenance procedures (e.g., EMI-35, SMI-192.2, SMI-192.4, SMI-192.5) to include SNM instructions, and provided training to key site personnel,
- e. Corporate overview of the BFN SNM program will include a quarterly SNM system review for the 24 months following September 1987 (Besides the August 18-21, 1987, annual system review, two quarterly status reviews were performed on December 15-16, 1987, and March 10-11, 1988), and
- f. The following specific corrective actions have been taken on the six (6) problems with TI-14 specifically identified in this Notice of Violation:
  - f.1 TI-14 now clearly assigns a designated representative if the Reactor Engineering Section Supervisor is absent.
  - f.2 TI-14 now requires that all inventory discrepancies shall be documented by initiating a Condition Adverse to Quality Report.
  - f.3 TI-14 now addresses the need for the individual who has performed an SNM physical inventory to compare the inventory results to the appropriate SNM history form. Second-party verification is required for all inventories. A CAQR is required for any discrepancy. Therefore, the comparison and subsequent CAQR will provide the required check and balance to prevent a recurrence.

- f.4 TI-14 now describes fuel bundle unique packaging and non-fuel SNM containers.
- f.5 TI-14 now delineates the need for Radcon coverage during special handling requirements and includes descriptions of physical appearance and physical storage configurations.
- f.6 TI-14 now assigns the responsibility to the SNM custodian for determining that individual(s) performing inventories have appropriate knowledge and experience. Their knowledge and experience is verified by reviewing the training records of individuals assigned physical inventory duties.

4. Corrective Steps Which Will Be Taken To Avoid Further Violations

Quarterly corporate system reviews will be conducted for 24 months starting in September 1987.

5. Date When Full Compliance Will Be Achieved

Full compliance has been achieved. However, TVA will continue to perform the quarterly corporate system reviews until September 30, 1989.

Example B

Contrary to the above, Technical Instruction 14 was not followed in that during four (4) separate inventories of SNM stored in a wooden box on October 28, 1986, January 30, 1987, and twice on June 16, 1987, an accurate piece count and listing of serial numbers was not obtained. As a result, a radioactive material shipment on June 16, 1987, was improperly documented as a shipment of five (5) Intermediate Range Monitors (IRMs) containing about one milligram of SNM each, as opposed to the actual count of six (6) IRMs contained in the shipment.

1. Admission or Denial of the Alleged Violation

TVA admits the violation.

2. Reasons For the Violation If Admitted

The four separate inventories of SNM stored in a wooden box were inaccurate. The initial inventory performed on October 28, 1986, was conducted by an SNM Aide who did not empty the box to obtain an accurate IRM piece count. The SNM Aide recorded an inaccurate count of the IRMs on the crate. At that time, TI-14 instructed the SNM Aide to "check all serial numbers of SNM items in opened shipping containers and/or other locations, if possible, without moving the incore detectors." This minimized the unnecessary handling of expensive instruments. Therefore, the SNM Aide believed the initial inventory was performed according to the procedure. The same procedure was again used during the subsequent inventories including the two inaccurate inventories performed just before the shipment on June 16, 1987. On the day of the shipment, a serial number discrepancy was noted. This discrepancy was dismissed as a transcription error, whereas, both detectors were in the wooden box. Consequently, an additional IRM containing about one milligram of SNM (U-235) was inadvertently shipped. Again, the management caution (not to remove the detectors) was not questioned by personnel performing the inventories.

3. Corrective Steps Which Have Been Taken And Results Achieved

TI-14 was revised on June 30, 1987, to remove the management caution and require qualified personnel to remove each SNM item from its respective container to ensure an accurate piece count, verification of location, and verification of serial number.

4. Corrective Steps Which Will Be Taken To Avoid Further Violations

None

5. Date When Full Compliance Will Be Achieved

Full compliance has been achieved.

Violation 2

10 CFR 70.51(c) requires that each licensee authorized to possess at any one time special nuclear material (SNM) in a quantity exceeding one effective kilogram of SNM shall establish, maintain, and follow written material control and accounting procedures which are sufficient to enable the licensee to account for the SNM in his possession under license.

Section 7.9 of Technical Instruction 14, Special Nuclear Material Control, which was prepared by the licensee to satisfy the requirements of 10 CFR 70.51(c), states that all established internal accountability records shall have prepared signature or initial lines, where required, to expedite and promote proper documentation and identification of the responsible

individuals. These records should readily yield information about SNM receipts, internal transfers of SNM, and any shipments of SNM. Updates of these records should be completed within a reasonable time after the event necessitating the update.

Contrary to the above, the provision for the update of accountability records within a reasonable time was not met in that Fuel Assembly Transfer Forms for the unit 3 core unload performed between January and February 1987 were not updated in a reasonable time with some being updated as late as four months after physical movement of the fuel.

TVA's Response

1. Admission or Denial of the Alleged Violation

TVA admits the violation.

2. Reasons For the Violation if Admitted

After unit 3 fuel assemblies were unloaded, the computer data base was not updated at that time due to the computer hardware being relocated onsite. This relocation made the data base inaccessible. The required history data was available for management tracking by means of two separate documents. These documents were verified to accurately indicate the existing location of unit 3 fuel assemblies when a physical inventory was completed on March 4, 1987. When the computer was available to the responsible engineering section, the history data was put into the computer, and the update was completed before the subject inspection.

3. Corrective Steps Which Have Been Taken and Results Achieved

TI-14 was revised on August 28, 1987, requiring an update of transfer history data within 10 working days of the transfer event or the SNM custodian will notify the Technical Support Services Superintendent in writing of a potential update delay to ensure corrective actions can be taken to minimize the delay.

4. Corrective Steps Which Will Be Taken To Avoid Further Violations

None

5. Date When Full Compliance Will Be Achieved

Full compliance has been achieved.

ENCLOSURE 2

RESPONSE  
NRC INSPECTION REPORT  
NOS. 50-259/87-29, 50-260/87-29, AND 50-296/87-29  
LETTER FROM S. D. RICHARDSON TO S. A. WHITE  
DATED APRIL 19, 1988

LIST OF COMMITMENTS

1. Report to NRC by September 30, 1987, the results of the SNM records search. (Completed - September 30, 1987)
2. Revise corporate procedure PMP 1801.03 by November 30, 1987, as described in enclosure 1. (Completed - November 25, 1987) -
3. Revise BFN procedures by December 1, 1987, for implementation by January 1, 1988, to require that only personnel with specific SNM training be assigned SNM duties. (Completed - November 30, 1987)
4. Provide SNM training to additional key site personnel by January 1, 1988. (Completed - December 17, 1987)
5. For a period encompassing the next 24 months beginning September 1987, the corporate program manager will perform a quarterly check of the status of the SNM program at BFN.
6. Revise Technical Instruction 14 requiring update of transfer history data within 10 working days or notify management in writing of a data update delay. (Completed - August 28, 1987)